

DETERMINANT OF DESIRE FOR ADDITIONAL CHILDREN AMONG HIGH PARITY COUPLES IN BANGLADESH: AN UNREMITTING INFLUENCE OF GENDER PREFERENCE

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Abstract. *A further reduction in TFR is possible in a short period of time by meeting the unmet needs of high parity couples in Bangladesh. The statement is supported by the fact that 91% of the couples with three or more living children do not want additional children and that only 51% use family planning methods. However, 9% of the high parity couples want an additional child. In this context the paper examined whether there exist association between gender composition of living children and the desire for additional children among high parity couples using the data extracted from the 2004 Bangladesh Demographic and Health Survey. The paper also examined whether education, socioeconomic status, and NGO membership can modify the influence of gender composition on desire for additional children. The findings of the study showed that gender preference, particularly of son, was a major determinant of the desire for more children and it was more common among the women with all female children, with odds of desiring additional children was 11.4 times of women those having at least one of both sexes in rural area while it was 7.08 times in urban area. The analysis also revealed that the influence of gender preference was not modified by education, socioeconomic status, and NGO membership of woman.*

Keywords: high parity couple, desire for additional children, fertility, contraception, gender preference.

1. INTRODUCTION

Bangladesh has done very well in popularizing family planning services among the couples of reproductive age (Greenspan, 1992; Nag 1992) by raising contraceptive prevalence rate (CPR) from 13.8% in the early eighties to 51.4% in 2003-2004 (NIPORT, Mitra and Associates and ORC Macro 2004). Correspondingly the total fertility rate (TFR) has declined from 5.1 in 1984 to 3.0 in 2003-2004 (NIPORT, Mitra and Associates and ORC Macro, 2004). Despite the increase in CPR, the TFR has been at halt since 1994 at around 3.0 and so has been the desired number of children by couples at 2.5 (Islam, Islam, and Chakraborty, 2001; Rahman Da Vanzoo and Razzaque, 2004). The situation has posed a serious challenge to the policy makers in general and the FP program personnel in particular, for it may result in a much larger population size in the future than anticipated. The Bangladesh Demographic Survey data also revealed that 91% of the couples with three or more living children did not want any additional children yet only 51% of them used family planning methods. In addition nearly one-third of the births in a year take place among couples with three or more children and 40% of them are unwanted (NIPORT, Mitra and Associates, and ORC Macro, 2004).

It is with the above background the present paper is based on the premise that the TFR (among fecund couples) is primarily determined by couples' desire for offspring and, in some instances, for offspring of a particular sex (Rahman Da Vanzoo and Razzaque, 2004; Rahman Da Vanzoo, 1993; Bairagi, 2001). Family planning methods, especially the modern ones, are an aid to help couples achieve their desired family size in an interval of their choice. Thus, it is the number of children, and may be their sex composition, a couple has at a particular point in time that should determine their fertility behavior. In Bangladesh, the mean number of children couples want is between 2 and 3, preferably with one of either sex. Given the current sex ratio at birth, 52% of the births in Bangladesh are male. The probability of two consecutive male children is $0.52 \times 0.52 = 0.27$, probability of one boy and one girl is $0.52 \times 0.48 \times 2 = 0.50$, probability of two girl is $0.48 \times 0.48 = 0.23$. Thus, 77% of the couples with two children will have at least one boy. With the change in family size norms, which has been around 2.5 for quite sometime, perhaps most of the couples with unmet sex composition of children will go up to a maximum of three to have their preferred sex composition met. Thus, three children should be a reasonable cut-off point in the context of prevailing norms for targeting couples to enhance the contraceptive prevalence rate to reduce the TFR further (Bhuiya and Rahman, 2007). The authors finally argued that with higher family planning use among the high parity couples a

significant number of births could be averted reducing TFR by around 20% (Bhuiya and Rahman, 2007).

On the other hand, identification of factors influencing the couples with three or more living children desiring additional children are also important as it may help family planning programs to target the need of and increase the use of family planning amongst these couples. Earlier studies revealed that gender preference among couples is an important determinant of family planning use (Bairagi, 2001; Khan and Khanum, 2000; Rahman, et. al., 1992). Other studies demonstrated that son preference in Bangladesh is very strong and pervasive and has been frequently cited as one of the major obstacle for reducing the national fertility level (Bairagi Langsten, 1986; Amin and Mariam, 1987; Mannan, 1988; Rahman, Akbar, Phillips, and Becker 1992; Rahman and Da Vanzo, 1993; Bairagi, 2001). It was showed that fertility would be reduced by 4-8 percent if there were no gender preference in the country (Chowdhury and Bairagi, 1990). However, all these investigations on impact of gender preference on contraceptive use and fertility have been done considering the women with all parities but no one did such investigation among the women with three or more children. Therefore, it is now important to know how significant gender preference is in influencing the use of FP among high parity couples and whether gender preference is modified by programmatic variables, education, and participation in NGO program and also by socioeconomic status, which may be much helpful in making new policies in further reduction in fertility. It is against the above background that the present analysis has been carried out to examine the influence of gender preference on desire for more children among the couples with three or more children.

Couples' preference for sons or for more sons than daughters has been recognized in several countries in the world. Preference for male children is especially prevalent in South Asia except Sri Lanka, while a balanced sex composition of children is more commonly preferred in many European and Latin American countries (Freedman and Coombs, 1974; Williamson, 1976; Cleland, Verrall and Vaessen, 1983; Nag, 1991; Abeykoon, 1995). The Pakistan Demographic and Health Survey of 1990/91 showed that, of the women with no children, about one-third desired to have a son, while the preference for having a daughter was negligible. Among those who had two daughters and no son, almost all (93 percent) wanted their next child to be a son. However, the incidence of wider neglect of female children or preferential treatment for male children was not evident from the data (Karim, 1994). More recent data from Pakistan further confirms the continued desire for sons (NIPS, 1992). In a study of the scheduled caste population in the

Indian State of Assam (Nath and Kenneth, 1994) it was found that couples having two surviving sons are less likely to have a third child than those without a surviving son and those with only one surviving son.

For a better understanding of son preference, it is imperative to bear in mind the country's socio economic points of view. Women in a male-dominated society such as in Bangladesh often cannot make decisions themselves regarding family size and contraceptive use, although they carry a heavy burden of poor health related to reproduction. Women's contributions are also unrecognized in the family as well as by society. However, their importance is predicated mainly on their ability to produce children, particularly sons. Bangladesh has the highest ratio of preference for sons over daughters. Sons are generally preferred over daughters because sons contribute more than daughters to family income, provide adequate support in old age to their parents, impose less of a financial burden, and carry forward the family name (Nag, 1991; Ali, 1989). Conversely, the birth of a daughter is seen as bringing neither 'benefit' nor 'prestige' to the family. Daughters are often considered as an economic liability because of the dowry system as well as the high cost of weddings. Thus, when the net utility of having a son outweighs that of having a daughter, parents are likely to prefer sons to daughters and may be reluctant to stop childbearing until their desired number of sons has been achieved. These various perspectives lead to different conclusion about the impact of son preference on couples' attitude towards desiring additional children and consequently in fertility.

To what extent does son preference have an effect on fertility and contraceptive use? Das (1987) analyzing Indian data in Gujarat State noted that the effect of son preference on overall fertility is significant and concluded that future fertility might be reduced if gender preference could be realized. An investigation (Bairagi and Langsten, 1986) in rural Bangladesh revealed that although son preference is very strong, more than 98 per cent of women desire to have at least one daughter. However, women with a higher proportion of sons are less likely to want more children and are more likely to practice contraception. In another study on Bangladesh (Chowdhury, Bairagi and Koinig, 1993) on the effects of family sex composition on fertility preferences and behaviour during the period 1977-1988, it was found that the sex composition of living children was systematically related to fertility preferences and behavior, with a higher number of sons at each family size associated with a higher percentage of women wanting no more children, a higher percentage currently using contraception, and lower subsequent fertility.

In a study of the effect of sex preference on contraceptive use and fertility in rural South India, it was found that couples overall prefer families with at least one son and one daughter, but in areas where contraceptive prevalence rates are high, most couples have two sons with or without a daughter before they initiate contraceptive use (Rajaretnam and Deshpande, 1994). In low-prevalence areas, couples often have two sons and one daughter before starting to practice family planning. In the absence of sex preference, the authors noted that contraceptive prevalence rates could be expected to increase by about 12 per cent in the high prevalence areas and by about 25 per cent in low prevalence areas. In both areas, the levels of marital fertility can be expected to decline by about 20 per cent from current levels. In a few recent studies in Bangladesh (Khan and Parveen, 2000; Rahman, et. al., 1992) indicate that son preference can have a strong effect on contraceptive use and fertility. In the study area of Matlab, Bangladesh, which had a contraceptive prevalence of about 50 per cent and an average of four children per couple, the researchers calculated that eliminating the preference for sons would increase contraceptive use by 10 per cent and continuation rates by 15 per cent. Such increases would likely avert nearly one birth for every two couples (Rahman, et. al., 1992).

2. DATA AND METHODS

The data for this study was obtained from the 2004 Bangladesh Demographic and Health Survey (BDHS). BDHS is a cross-sectional survey that has been carried out once in every two years since 1993 among nationally representative samples of women similar to what is done in many other countries. The BDHS is part of the worldwide Demographic and Health Surveys (DHSs) program which collects information on various aspects such as demographic characteristics, reproductive history and family planning. The survey was conducted from November 2003 till March 2004, under the leadership of the National Institute of Population Research and Training (NIPORT), Bangladesh. A nationally representative two-stage probability sample design was used for the survey in which a total of 11,440 ever-married women were successfully interviewed. Details of the methodologies used in BDHS can be found elsewhere (NIPORT, Mitra and Associates and ORC Macro, 2004). The paper is based on data of all currently married women aged 10-49 years from both rural (N=3,826) and urban (N=966) areas with three or more surviving children at the time of the survey. Women who were undecided on whether they wanted to have more children and claimed to be infecund were excluded from the analysis. Background information of the women is displayed in Table 1.

Table 1
BACKGROUND CHARACTERISTICS OF STUDY POPULATION

Variables	% of women	No. of women	Variables	% women	No. of women
Age (years)			Sex composition		
<30	24.1	1156	All male	5.7	272
30-40	43.4	2082	All female	5.1	244
40+	32.5	1554	At least one of both sexes	89.2	4276
Education			Religion		
No education	55.6	2663	Muslims	90.7	4348
Primary	30.3	1451	Others	9.3	444
Secondary+	14.2	678			
Currently working			Area of residence		
Yes	21.7	1042	Urban	20.2	966
No	78.3	3750	Rural	79.8	3826
NGO membership			Divisions		
Member	65.0	3116	Barishal	6.8	325
Non-member	35.0	1676	Chittagong	20.0	958
			Dhaka	31.4	1505
			Khulna	10.6	506
			Rajshahi	24.4	1167
			Sylhet	6.9	331
Desire for more children			No. of surviving children		
Wants more	9.1		3	41.8	2002
Wants no more	90.9		4+	58.2	2790
Total		4792			4792

The paper is based on the ground that desired for more children has negative association with contraceptive use and have a potential impact on fertility (Chowdhury, Bairagi and Koinig, 1993). As a result it has widely been used as a better predictor of subsequent fertility (Freedman, Hermalin, and Chang, 1975; Rodgers 1976; Hermalin, Freedman, Sun, and Chang, 1979). It is also argued by many population experts that further reduction of fertility is unlikely without considerable reduction in the desire of additional children. The number of children desired, on the other hand, is influenced by many social, economic, and cultural factors, including one's religion and preference for children of a particular sex (Bhuiya and Rahman, 2007). Moreover, the desire for additional children in Bangladesh was analyzed by many population experts with bivariate and multivariate techniques in logistic models which include socioeconomic and demographic characteristics such as educational attainment, current contraceptive use, engagement in an income generation activity, Muslim religion, land ownership, member of a social

organization, and availability of electricity in the household (Kabir, Amin, Ahmed, Chowdhury, 1994). Desire for additional children in their logistic model revealed significant effects for age, current contraceptive use, work status, land ownership, and visit of family planning workers. Other studies showed that female education has a significant contribution on desire for more children (Matin, 1985). In addition, many studies revealed that family sex compositions have significant impact on desire for additional children with a higher number of female at each family size associated with a higher percentage of women wanting more children (Chowdhury, Bairagi and Koinig, 1993).

It is with the above justification the paper examined the association between a set of independent variables and the desire for additional children among couples with three or more children by using bivariate and multivariate statistical techniques. The set of independent variables included sex composition of surviving children, educational attainment of women, age of women, current engagement in an income generating activity by the women, number of surviving children, religion, membership of a non-governmental organization, and household socioeconomic status (SES), and also included some programmatic variables such as number of visits in the six months preceding the survey by family planning field workers. The variable SES was determined by asset index, while the asset index was constructed using principal component analysis (Rutstein and Johnson, 2004). Asset information was collected with the 2004 BDHS household questionnaire and included information on household ownership of quite a few consumer items, ranging from a television to a bicycle, as well as dwelling characteristics, such as existing source of drinking water, sanitation facilities, and type of material used for the floor. Each asset was assigned a weight (factor score) generated through the principal component analysis, and the resulting asset scores were standardized in relation to a normal distribution with a mean of zero and standard deviation of one. Each household was then assigned a score for each asset and the scores were summed for each household; individuals were ranked according to the total score of the household in which they resided. The sample was then divided into quintiles from one (lowest) to five (highest). A separate asset index was calculated for urban and rural sample. The only dependent variable, desire for additional children, was coded as 1 for wanting another child then or later and as 0 for not wanting any.

A separate analysis was carried out for the urban and rural areas, because in terms of socio-demographic condition the rural and urban societies are so different in Bangladesh. Logistic regression analysis was carried out to assess the net effects of the gender composition of the living children after

controlling the effect of other variables on the couples' desire for more children. In the logistic regression analysis all the independent variables were coded as categorized variables and the dummy coding scheme was used. Multicollinearity among the explanatory variables was also checked by calculating variance inflation factors (VIF) for each of individual variable. At first, a stepwise method is used to estimate the parameters from a parsimonious model. Initially 10 explanatory variables were included to arrive at a main effect model with statistically significant variables. But we fitted the model including all significant and insignificant variables. Afterwards interactions of some relevant variables were included to examine whether these variables could modify the influence of gender preference.

3. RESULTS

Table 2 presents the proportion of women desiring more children by the sex composition of the living children and other independent variables from both the rural and urban areas. The corresponding results of logistic regression analysis for rural and urban areas are presented in Table 3 and Table 4 respectively. In logistic regression analysis for both areas, variance inflation factors for each of the explanatory variables in the fitted model was found to be a value no more than 4 indicating that multicollinearity was not a serious problems.

3.1. Rural

Bivariate analysis results for the rural areas show that the sex composition of the surviving children as well as the age of the women, NGO membership, education of women, place of residence, religion, number of surviving children, and household socioeconomic status (SES) had statistically significant association with the couples' desire for more children (Table 2). When the effects of all independent variables were controlled in the logistic regression analysis the effects of religion became insignificant (Table 3).

The rural data illustrates that the proportion of women who wanted additional children was largest (38.4%) among women who have only daughters, followed by women who had only sons (12.6%), and women who had at least one of both sexes (4.5%). In a relative sense, women who had

only daughters and only sons were 11.7 and 2.6 times more likely to desire more children as compared to those having at least one of both sexes.

The desire for additional children was much higher among younger women aged less than 30 years with 15.7% desiring more, followed by women aged 30-40 years (5.2% desiring more), and aged 40 or more (only 0.9% desiring more). In a relative sense, the odds of wanting more likely respectively children by women aged 30 years or less and women aged 30-40 were 14 and 5 times more than that of women aged 40 years or more. It might be due to the fact that as women in the lower age groups still able to bear a child they may try to acquire a minimum number of sons or daughters according to their preference. Beside, these women with age 40 or more may meet their preferred family size norms which consist at least one of both sexes.



Table 2
DISTRIBUTION OF WOMEN WITH THREE OR MORE CHILDREN DESIRING ADDITIONAL ONE BY VARIOUS INDEPENDENT VARIABLES IN BOTH RURAL AND URBAN AREA

Independent variables	Rural			Urban		
	No. of women	% of women desiring more child	p-value	No. of women	% women desiring more child	p-value
Education of women						
No education	2190	10.9		441	6.9	
Primary	1160	8.3	p=0.03	277	5.3	p=0.20
Secondary+	430	6.7		242	3.2	
Age of women						
<30	927	15.7		206	17.5	
30-40	1613	5.2	p=0.00	441	3.8	p=0.00
40+	1238	0.9		314	.8	
Division						
Barishal	281	3.5		4	5.0	
Chittagong	718	8.3		217	5.5	
Dhaka	1090	9.1	p=0.00	408	3.1	p=0.06
Khulna	402	2.5		97	4.1	
Rajshahi	1018	3.9		146	2.9	
Sylhet	269	13.2		53	7.6	
NGO Membership						
Non member	2458	10.8	p=0.01	615	5.8	p=0.87
Member	1320	4.7		345	5.5	

Continued

Continued Table 2

Independent variables	Rural			Urban		
	No. of women	% of women desiring more child	p-value	No. of women	% women desiring more child	p-value
Currently working						
No	2983	7.1	p=0.44	724	6.0	p=0.17
Yes	796	8.3		236	4.1	
Sex composition						
All male	199	12.6		66	12.3	
All female	164	38.4	p=0.00	69	32.5	p=0.00
At least one of both sexes	3415	4.5		826	3.4	
Religion						
Muslim	3411	9.8	p=0.01	886	5.8	p=0.24
Others	368	4.3		74	3.9	
SES						
Poorest	909	11.9		91	3.2	p=0.22
Poorer	934	9.9	p=0.00	98	8.9	
Middle	806	4.5		137	4.7	
Richer	785	3.8		192	4.3	
Richest	343	5.3		443	4.1	
No. of visits by family planning						
FW	2830	9.8		670	5.2	p=0.88
0	386	10.1	p=0.06	102	4.1	
1	562	7.1		188	6.3	
2+						
Number of surviving children						
3	1515	12.1	p=0.00	457	6.9	p=0.01
4+	2262	5.2		503	4.0	
Total	3826	10.2		966	5.1	

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Education of high parity women had a negative relationship with the desire for additional children. Almost 11% of the women without any schooling desired additional children, while the percentage of women with secondary or more level of education desiring additional children was 6.7%. In a relative sense, the odds of desiring more children were 1.87 and 1.40 times more among women with no education and primary education respectively, compared to women with secondary or more level of education. Education is such an event of human life that carries out a significant role in changing his/her life positively. Thus, higher educated women slightly able to conscious about their family size norms compared to lower educated women. As a result women with higher education were less likely to desire for additional one compared to its counter less educated women. This finding is similar to other previous findings which concluded that women education had a significant impact on fertility desires in Bangladesh (Matin, 1985).

NGO membership of women had a positive relationship with the desire for more children. The odds of wanting more children was 1.52 times more among non-members compared to the members of any NGO. It might be due to the fact that NGO membership of women in the rural area had given them much freedom to make decision in determining family size norms as well as other decisions in the household management (Amin, Becker, and Bayes, 1998).

In addition, couples' attitude towards desire for additional children also varied by place of residence. It was demonstrated to be the highest in Sylhet division, closely followed by Dhaka and then Chittagong, whilst it was lowest in Khulna division. The odds of wanting more children among women who lived in Sylhet and Chittagong divisions were 5.7 and 4.9 times of the women who lived in Khulna division, respectively, while it was 2 times higher in Dhaka and Rajshahi division. In Bangladesh there is a significant variation in its demographic characteristics by regions (NIPORT, Mitra and Associates, and ORC Macro, 2004). Accordingly, couple's attitude towards desire for more children also varied by geographical locations.

Moreover, the socioeconomic status of the households assessed by ownership of durable goods provides evidence of a negative association with desire for more children. The odds of wanting more children among the women belonged to either the poorest or poorer quintile was 1.6 times of women belongs to richest quintile, whilst it was 20% less among the women belonged to either middle or richer quintile. It is the result of reality that women belonging to higher social class are usually educated and conscious about small family size norms.

Table 3
RESULTS OF LOGISTIC REGRESSION ANALYSIS OF DESIRE FOR
ADDITIONAL CHILDREN AND VARIOUS INDEPENDENT VARIABLES IN
THE RURAL AREA

Variables	Coefficients (B)	p-values	Odds ratio	95% CI for odds ratio
Age of women	(1.34)	0.00		
<30	2.654	0.00	14.20	[7.51, 26.84]
30-40	1.702	0.00	5.48	[2.88, 10.44]
40+	RC			
Division	(0.89)	0.00		
Barishal	0.804	0.14	1.22	[0.57, 3.34]
Chittagong	1.607	0.00	4.92	[2.80, 10.34]
Dhaka	1.644	0.00	2.78	[1.54, 5.69]
Khulna	RC			
Rajshahi	0.855	0.05	2.28	[1.13, 4.22]
Sylhet	2.138	0.00	5.68	[3.73, 16.25]
Sex compositions	(1.73)	0.00		
All male	0.967	0.00	2.62	[1.62, 4.26]
All female	2.464	0.00	11.74	[7.81, 17.66]
Atleast one of both sexes	RC			
Religion	(2.54)	0.12		
Muslim	0.201	0.12	1.22	[0.87, 3.91]
Others	RC			
Education	(2.47)	0.04		
No education	0.628	0.02	1.87	[1.21, 3.25]
Primary	0.341	0.11	1.40	[1.11, 2.23]
Secondary+	RC			
NGO Membership	(1.77)	0.01		
No	0.421	0.01	1.52	[1.01, 2.22]
Yes	RC			
SES	(2.93)	0.00		
Poorest	0.498	0.10	1.64	[0.89, 3.02]
Poorer	0.524	0.09	1.68	[0.90, 3.13]
Middle	-0.191	0.57	0.82	[0.42, 1.61]
Richer	-0.206	0.54	0.81	[0.41, 1.59]
Richest	RC			
No. of Surviving children	(1.52)	0.00		
3	0.996	0.00	2.71	[1.93, 3.78]
4+	RC			
Currently working	(1.84)	0.46		
No	0.135	0.46	1.14	[0.79, 1.64]
Yes	RC			
No. of visit by family planning FW	(2.27)	0.33		
0	0.087	0.36	1.09	[0.68, 1.46]
1	0.126	0.27	1.13	[0.84, 1.72]
2+	RC			
Constant	-6.191	0.00		

Notes: -2 log LR=1368.94 with p-value=0.00

* The value in the parenthesis indicate the variance inflation factor (VIF)

RC reference category

Number of survival children, on the other hand, showed a significant relationship with desire for additional children. Twelve percent of women with three surviving children desired additional one while it was only three percent among the women with four or more surviving children. In a relative sense, the odds of desiring among the women with three surviving children was 2.71 times more likely compared to the women with five or more surviving children. It was happened due to the fact that when the couples did not attain their preferred family size norms at three, which consists at least one of both sexes, they want for another one. But most of them may realize their preferred family at four or five. Let us explain it. Calculation with current sex ratio at birth, 52% boys, showed that 75% of couples able to meet their preferred family size norms at three children which consists at least one of both sexes while it is 88% at four and 94% at five and so on. Thus, this explanation indicates that with the increase of surviving children there is a higher possibility of realizing preferred family size norms which consists at least one of both sexes.

In an attempt to understand whether education of women, socioeconomic status, and NGO membership could modify the effect of gender composition of children on desire for additional children, the interaction effects of education, socioeconomic status, and NGO membership with sex composition on desire for more children were examined by using logistic regression techniques. But the interaction terms were statistically insignificant implying that the influence of gender composition were not modified by education, socioeconomic status, and NGO membership.

3.2 Urban

Table 2 and Table 4 present the results for the urban areas. Both the bivariate (Table 2) and logistic regression (Table 4) findings show that the sex composition of the living children had a statistically significant relationship with the desire for additional children when the effects of other variables were controlled. The only other variable that demonstrated significant relationship included the age of women,

The desire for more children among urban women was strongly influenced by sex composition of the living children. Above 30 percent of the women who had only daughters wanted to have more children, followed by 12 percent of the women with all sons, and 3 percent of the women with at least one of both sexes. In a comparative sense, the odds of desiring more children among the women having three or more daughters

and women having three or more sons were 7 and 3.8 times of the women with at least one of both sexes, respectively.

Desire for more children was highest among women aged less than 30 years, followed by women aged 30-40 and 40 or more. Almost 18 percent of the urban women aged less than 30 with three children wanted to have another child, while it was only 0.8 percent among the women aged forty and above. In a relative sense, the odds of desiring additional one were 2.8 and 8.1 times more likely among the women with age 30-40 and less than 30 respectively compared to women with age above 40. It is due to the similar reasons what explained for rural women.

Since NGO membership, socioeconomic status, and education of women did not demonstrate any significant relationship with the desire for additional children no attempt was made to assess the interaction effect with gender composition.

In sum, the foregoing discussion from findings of the paper revealed that as almost all couples' desired family size at earlier stage of family formation lies between 2 to 3 children, desire for additional one beyond 3 is the most likely due to strength of gender preference, particularly of son. Finding also revealed that strength of gender preference was so strong that it could not be modified by any third factors. This finding holds true in both rural and urban areas.

4. DISCUSSION AND CONCLUSIONS

The data on desire for additional children is, in a sense, hypothetical and thus subject to change and rationalization. However, data on desire to have a child can provide an indication of the direction of future fertility, extent to which individuals and couples are likely to achieve their preferred family sizes. The mean ideal family size preferred by a couple now in Bangladesh is between 2 to 3 children, preferably with one of either sex. Depending on sex preference couples may want to terminate their childbearing at three and the family size norm is identified as that which consists of two boys and one girl or at least one of both sexes. The findings also reveal that for 77% of the couples the ideal family size is 3 children, preferably with one of both sexes (NIPORT, Mitra and Associates, and ORC Macro 2004). Thus couples whose preferred sex composition was not met within three children are more likely to opt for more children. An estimation of the number of the couples with unmet sex composition within three children can shed some light on the challenges the family planning program may have to face to reduce TFR further. Existing statistics shows that 52% of the births in Bangladesh are males

and as such the other 48% are females. The probability of having only sons out of the first three is $0.52 \times 0.52 \times 0.52 = 0.14$, probability of three girls is $0.48 \times 0.48 \times 0.48 = 0.11$ and so the probability of at least one of both sexes is $1 - (0.14 + 0.11) = 0.75$. Thus, 25% of couples with three children were not able to realize their preferred family size norms which consist of at least one of both sexes. Again, probability that a couple with three children will have two sons and one daughter is $3 \times 0.52 \times 0.52 \times 0.48 = 0.39$ which implies that 61% of the couples with three children will fail to have two sons and one daughter. As an attempt to materialize desired sex compositions, some couples with unmet sex composition with three or more children may continue their childbearing efforts until their desire is fulfilled. Thus, it is not surprising to see that a significant number of births in a year took place among couples with three or more children which as a consequence acts as a barrier in the further reduction of TFR. Findings of the study, on the other hand, revealed that gender preference, particularly of son, among the women with three or more children has been carried out a substantial impact on desire for additional children regardless other socio-demographic factors. This phenomenon holds true for both urban and rural women.

In addition, the findings about the modifying effects of NGO membership, education of women, and socioeconomic status in reducing gender preference are absolutely zero. The high proportion of women with all female children desiring additional children in urban areas similar to rural areas and the not significant effect of NGO membership, socioeconomic status, and education of women indicated that even urbanization has not been of much help in reducing the effect of gender preference on the desire for additional children. Thus, gender preference is being continued to be a barrier in reducing fertility even among couples with three or more children.

In sum, the results clearly indicate that preference for male children exerts a substantial impact on the fertility desires and family planning behavior of women in Bangladesh. Fertility behavior appears to be influenced by a strong desire to acquire a minimum number of surviving sons. In the light of these findings, it appears that despite the slight declining fertility level in Bangladesh, further reductions in fertility may become increasingly more difficult to achieve unless there is a concomitant decline in the preference for male children. Since son preference is linked to women's status in society, there is an urgent need to bring about widespread structural changes to enhance the status of women in the country. Increasing the economic opportunities for women and raising the value of women's labour would increase the likelihood of parents regarding their daughters as economic assets rather than as liabilities. Increasing the opportunities of education for female children may increase their income-earning potential and thereby raise their

economic value to their parents. Better access to food and medical care in general would enable parents not to discriminate against female children in the allocation of household resources. Also, better opportunities for old-age security would minimize the urge to have sons. Above all, far-reaching changes in the cultural and economic status of women would enable women to resolve the conflict between the achievement of their smaller family size preferences and sex preferences.

Table 4
RESULTS OF LOGISTIC REGRESSION ANALYSIS OF DESIRE FOR
ADDITIONAL CHILDREN AND VARIOUS INDEPENDENT VARIABLES IN
THE URBAN AREA

Variables	Coefficients (B)	p-values	Odds ratio	95% CI for odds ratio
Age of the Women	(0.83)	0.03		
<30	2.092	0.001	8.10	[2.32, 28.21]
30-40	1.057	0.11	2.87	[0.81, 10.19]
40+	RC			
Division	(0.78)	0.72		
Barishal	-0.184	0.85	0.83	[0.11, 6.12]
Chittagong	0.096	0.87	1.10	[0.32, 3.77]
Dhaka	-.477	0.44	0.62	[0.18, 2.08]
Khulna	RC			
Rajshahi	-.585	0.42	0.55	[0.13, 2.37]
Sylhet	0.149	0.86	1.16	[0.21, 6.39]
Sex Compositions	(1.23)	0.00		
All male	1.348	0.00	3.85	[1.49, 9.94]
All female	1.957	0.00	7.08	[3.19, 15.70]
At least one of both sexes	RC			
Religion	(1.87)	0.21		
Muslim	0.37	0.21	1.44	[0.89, 4.25]
Others	RC			
NGO Membership	(2.71)			
No	0.130	0.74		
Yes	RC	0.74	1.13	[0.52, 2.46]
SES	(2.53)	0.17		
Poorest	0.073	0.29	1.07	[0.22, 5.34]
Poorer	1.375	0.01	3.95	[1.26, 12.34]
Middle	0.416	0.47	1.51	[0.48, 4.73]
Richer	0.266	0.61	1.30	[1.46, 3.63]
Richest	RC			
No. of Surviving children	(1.33)	0.26		
3	0.482	0.26	1.61	[0.69, 3.75]
4+	RC			
Currently working				
No	(1.72)	0.12		
Yes	0.117	0.12	1.12	[0.11, 1.09]
No. of visit by family planning FW	(1.98)	0.28		
0	0.044	0.39	1.04	[0.55, 2.01]
1	0.113	0.44	1.12	[0.74, 2.35]
2+	RC			
Constant	-1.920	0.00		

Notes: -2 log LR=267.51 with p-value=0.00

* The value in the parenthesis indicate the variance inflation factor (VIF)

RC Reference Category.

Sri Lanka is an outlier in South Asia with regard to sex preference (Abeykoon, 1995). Compared with other South Asian countries, the status of women in Sri Lanka is found to be more advanced. The many social welfare programs carried out during the post-independence decades did create many favourable conditions which promoted greater participation of women in the development process. These include (a) rapid expansion of literacy and educational attainment of women, (b) improved life expectancy and decline in fertility and (c) wider participation of women in formal and informal economic activities.

The economic participation of women of Sri Lanka in the modern sector has shown a marked increase in recent years. Female participation in manufacturing industries has increased visibly; in 1996, about 48 per cent of the total employed in this sector were women. Women have been employed in increasing numbers in export-oriented modern industry. The employment of females in these industries has increased employment opportunities for women and has also given them some degree of economic independence and personal freedom. The increased participation of women in the modern sector has also improved their social mobility. While the initial impetus to fertility decline came about through rising aspirations of females resulting from the expansion of educational opportunities and attainment, in more recent decades, the upward social mobility of females brought about by the wider availability of economic opportunities and participation in the modern economic sectors have also contributed to higher contraceptive use and fertility decline in Sri Lanka.

It is thus imperative that the Bangladesh Government instead of propagating the two-child family norm across the broad emphasizes programs and policies that actively improve the status of women and change attitudes towards female children. The programs should target the newly married couples and try to comprehend them that boy and girl could provide equal economic benefit as well as old age security for family now in days. As a result the couples would be motivated to stop their childbearing after they have met their desired family size between 2 to 3. Electronic media also can take such type of initiative by broadcasting different types of drama such that couples would be motivated to not desiring male children after they have reached their desired family size. After such motivation family planning program can easily promote these couples to use any permanent contraceptive methods to stop child bearing. In this manner if it could be diminished son preference at the earlier stage of family formation, future fertility would be declined further. In addition, the gradual erosion of the widespread societal preference for sons in Bangladesh may be brought about, as has taken place in Sri Lanka, by raising the economic and social value of the girl child through education.

5. LIMITATION OF THE STUDY

As the study used the cross sectional data it is unable to establish the cause-effect relationship between response variable and explanatory variable from it. Another limitation of this study is that this unable to identify whether gender preference is strong among whom, husband or wife? This may helpful in motivation process to not desiring additional sons after couples have reached pre-determined family size norm. Therefore, this question leads further research scope.

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